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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/090,060	03/01/2002	Caidian Luo	HARD1.033A	4640

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EXAMINER

MARCANTONI, PAUL D

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 12/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/090,060	<b>Applicant(s)</b> LUO ET AL. <i>AL</i>	
	<b>Examiner</b> Paul Marcantoni	<b>Art Unit</b> 1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 08 October 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Applicant's arguments filed 10/8/04 have been fully considered but they are not persuasive.

35 USC 102/103

Claims 1-8 remain rejected under 35 U.S.C. 102(a and b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Naji (US Patent No. 6,030,447), Ries '196, or Chumbley et al. '480.

Naji et al. '447 teach a cement composition comprising cellulose fibers and dispersant thus anticipating the instant invention. (See claims 13 and 16). It is the examiner's position that even if not anticipated, a dispersant's function is to disperse and reduce interparticle/fiber attraction and this would still have been accomplished thus rendering applicants' invention obvious to one of ordinary skill in the art. Further, it would have been an obvious design choice for one of ordinary skill in the art to use a cationic, non-ionic or ionic dispersant as all are functionally equivalent.

Ries '196 teaches mixing cellulose fibers and surfactants including cationic, non-ionic, and anionic (see col.2, last 3 paragraphs and col.3 line 35) thus anticipating the instant invention. It is the examiner's position that even if not anticipated, a dispersant's function is to disperse and reduce interparticle/fiber attraction and this would still have been accomplished thus rendering applicants' invention obvious to one of ordinary skill in the art. Further, it would have been an obvious design choice for one of ordinary skill in the art to use a cationic, non-ionic or ionic dispersant as all are functionally equivalent.

Chumbley et al. teach treating cellulose fibers with a sizing agent including

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cationic or non-ionic dispersants thus anticipating the instant invention (see col.7, lines 20-30). It is the examiner's position that even if not anticipated, a dispersant's function is to disperse and reduce interparticle/fiber attraction and this would still have been accomplished thus rendering applicants' invention obvious to one of ordinary skill in the art. Further, it would have been an obvious design choice for one of ordinary skill in the art to use a cationic, non-ionic or ionic dispersant as all are functionally equivalent.

Lundin teach treating cellulose fibers with a cationic dispersant thus anticipating the applicants' claimed invention. (see col.2, lines 55-65). It is the examiner's position that even if not anticipated, a dispersant's function is to disperse and reduce interparticle/fiber attraction and this would still have been accomplished thus rendering applicants' invention obvious to one of ordinary skill in the art. Further, it would have been an obvious design choice for one of ordinary skill in the art to use a cationic, non-ionic or ionic dispersant as all are functionally equivalent.

Finally, the dispersant is a debonder so it would break bonds so as to "disperse the mixture.

Obviousness Double Patenting:

Claims 1-8 remain rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-52, 1-72, and 1-78 of U.S. Patent Nos. 6,676,745 B2 (Merkley et al.), 6,506,248 B1 (Duselis et al.), or 6,346,146 (Duselis et al.). Although the conflicting claims are not identical, they are not patentably

distinct from each other because all references teach a composition comprising

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cellulose fiber and dispersant which would inhibit bonding between hydroxyl groups of fibers and thus would have been obvious to one of ordinary skill in the art. Merkley et al. '745 B2 seems to be the strongest reference. However, the other references also teach the presence of cellulose fibers and dispersant which would mix and result in the properties as set forth in claims 1-8.

Response:

First, the obviousness type double patenting stands. The request to hold this rejection in abeyance is respectfully denied and is not the proper means to overcome the ODP rejection. Applicants may either argue the merits of how it differs over the cited references or submit a proper terminal disclaimer to overcome the rejection. Neither was done and thus the rejection stands.

The applicants also argue the prior art noting that none of the references teach using a building material using cellulose fibers partially treated with a dispersant to reduce inter-fiber hydrogen bonding and thus easily disperse the fibers in the building material. In rebuttal, it is noted that applicants' claimed building material is generic to a multitude of different fields and material types. A building material can potentially be a cement, a plastic or polymer, a fabric, a paper, etc. and are conventionally or commonly used in the building arts. The use of any of these materials as a building material would have been understood by one of ordinary skill in the art. Applicants do not specify the

particular identity of their alleged building material so it can read upon a multitude of different material types.

Regarding Naji, the applicants agree that Naji does teach adding dispersants yet do not agree that this reference teaches treatment with the dispersant to lead to reducing inter fiber hydrogen bonding. In rebuttal, the dispersant is mixed with the fibers and thus the mixing action would lead to the treatment of the cellulose fibers. More so, the dispersants of applicants' claim 6 are conventional dispersants used in the art and one of ordinary skill in the art would have understood that Naji could use organic dispersants, cationic, anionic, or non-ionic surfactants, etc. as the dispersant of the invention because they are conventional. Further, the use of a dispersant would reduce interfiber hydrogen bonding and thus meet the limitations of the instantly claimed invention.

Ries is directed to a cement mixture so automatically one of ordinary skill in the art would have understood that cement is useful for building materials and is commonly used for that purpose. It is the examiner's position that the mere mixing action of the surfactant in the cement mixture with the cellulose fibers would lead to a treatment of the cellulose fiber with the dispersant and a reduction of interfiber hydrogen bonding.

The applicants argue that because Chumbley is directed to the paper industry that it teaches away from building materials. The examiner disagrees and notes that paper/cellulosic materials are commonly used in the building trades by one of ordinary skill in the art. An example is particle board which is now used as a substitute for plywood because of its cost (no comment on quality) as well as other paper products

including insulation, flooring materials, etc. Chumbley teaches treating cellulose fibers with cationic and anionic dispersants which even meets the direct limitations of claim 6. Chumbley thus still meets the applicants' claim limitations.


Finally, the examiner has cited on an additional PTO-892 other references that also teach treatment of cellulose fiber with a surfactant and could have been used in a rejection of applicants claims. However, it is believed that the references above sufficiently meet the limitations of the claimed invention. Nevertheless, the finality of this office action is now proper.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Marcantoni whose telephone number is 571-272-1373. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Paul Marcantoni  
Primary Examiner  
Art Unit 1755